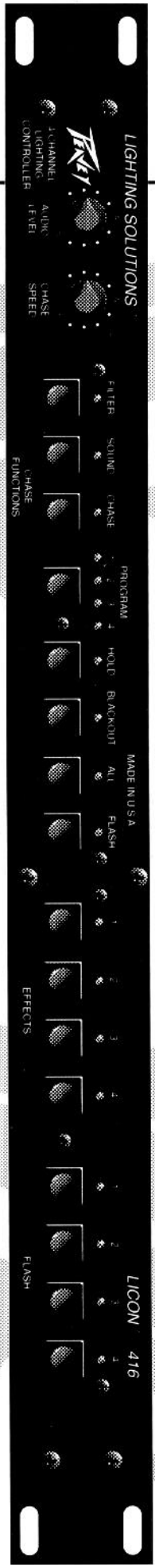
LICON™ 416

LIGHTING SOLUTIONS™



USERS GUIDE

• WARNING •

To prevent electrical shock or fire hazard, do not expose this appliance to rain or moisture. Before using this appliance, read the operating guide for further warnings.

• CAUTION •

*Risk of electrical shock - **Do Not Open**.*

To reduce the risk of electrical shock, do not remove cover.
No user serviceable parts inside.
Refer servicing to qualified personnel.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock.

DANGER

EXPOSURE TO EXTREMELY HIGH NOISE LEVELS MAY CAUSE A PERMANENT HEARING LOSS. INDIVIDUALS VARY CONSIDERABLY IN SUSCEPTIBILITY TO NOISE INDUCED HEARING LOSS, BUT NEARLY EVERYONE WILL LOSE SOME HEARING IF EXPOSED TO SUFFICIENTLY INTENSE NOISE FOR A SUFFICIENT TIME.
THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) HAS SPECIFIED THE FOLLOWING PERMISSIBLE NOISE LEVEL EXPOSURES:

DURATION PER DAY IN HOURS	SOUND LEVEL dBA, SLOW RESPONSE
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

ACCORDING TO OSHA, ANY EXPOSURE IN EXCESS OF THE ABOVE PERMISSIBLE LIMITS COULD RESULT IN SOME HEARING LOSS.
EAR PLUGS OR PROTECTORS IN THE EAR CANALS OR OVER THE EARS MUST BE WORN WHEN OPERATING THIS AMPLIFICATION SYSTEM IN ORDER TO PREVENT A PERMANENT HEARING LOSS IF EXPOSURE IS IN EXCESS OF THE LIMITS AS SET FORTH ABOVE. TO INSURE AGAINST POTENTIALLY DANGEROUS EXPOSURE TO HIGH SOUND PRESSURE LEVELS, IT IS RECOMMENDED THAT ALL PERSONS EXPOSED TO EQUIPMENT CAPABLE OF PRODUCING HIGH SOUND PRESSURE LEVELS SUCH AS THIS AMPLIFICATION SYSTEM BE PROTECTED BY HEARING PROTECTORS WHILE THIS UNIT IS IN OPERATION.

CAUTION

THIS MIXING CONSOLE, EFFECTS DEVICE/PREAMP HAS BEEN DESIGNED AND CONSTRUCTED TO PROVIDE ADEQUATE SIGNAL (VOLTAGE) FOR PLAYING MODERN MUSIC. IMPROPER USE OF THE GAIN/EQUALIZER CONTROLS AND/OR IMPROPER USE OF INTERNAL/EXTERNAL BUSSES **MAY** CREATE CLIPPING (SQUARE WAVES), AND POSSIBLY CAUSE SUBSEQUENT DAMAGE TO THE LOUDSPEAKER SYSTEMS. EXTENDED OPERATION OF THE GAIN/EQUALIZATION CONTROLS IN THEIR MAXIMUM POSITIONS IS THEREFORE **NOT** RECOMMENDED. PLEASE BE AWARE THAT **MAXIMUM POWER** CAN BE OPTAINED WITH VERY LOW SETTINGS OF THE **GAIN/EQUALIZATION** CONTROLS IF THE INPUT SIGNAL IS VERY STRONG.

IT IS COMMON PRACTICE AMONG USERS OF SOUND REINFORCEMENT EQUIPMENT TO IDENTIFY THE INDIVIDUAL CHANNELS WITH A STRIP OF TAPE PLACED ABOVE OR BELOW THE ROW OF VOLUME FADERS. MANY TYPES OR BRANDS OF TAPE HAVE A VERY STRONG ADHESIVE WHICH CAN INHIBIT THE PAINT ON THE FACEPLATE AND ACTUALLY REMOVE THE PAINT WHEN THE TAPE IS REMOVED. WE STRONGLY RECOMMEND THAT SCOTCH TAPE NOT BE USED ON PAINTED SURFACES NOR ANY OTHER TAPE THAT IS NOT ESPECIALLY DESIGNED FOR SUCH APPLICATIONS. MEDIUM OR LIGHT ADHESIVE MASKING OR MIXER LABEL TAPE IS RECOMMENDED IF TAPE IS USED. ANY TAPE LEFT ON PAINTED SURFACE FOR EXTENDED PERIODS WILL BE DIFFICULT TO REMOVE. NEVER USE CLEAR OR SCOTCH TAPE FOR THESE APPLICATIONS.

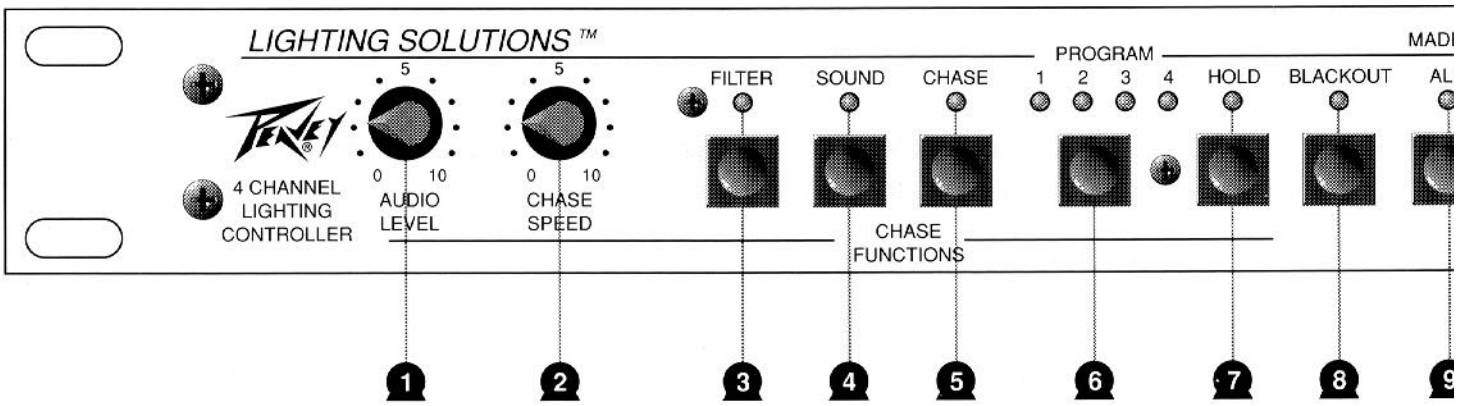
1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be retained for future reference.
3. Obey all cautions in the operating instructions and on the back of the unit.
4. All operating instructions should be followed.
5. This product should not be used near water, i.e. a bathtub, sink, swimming pool, wet basement, etc.
6. This product should be located so that its position does not interfere with its proper ventilation. It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
7. This product should not be placed near a source of heat such as a stove, radiator or another heat producing amplifier.
8. Connect only to a power supply of the type marked on the unit adjacent to the power supply cord.
9. Never break off the ground pin on the power supply cord. For more information on grounding write for our free booklet "Shock Hazard and Grounding."
10. Power supply cords should always be handled carefully. Never walk or place equipment on power supply cords. Periodically check cords for cuts or signs of stress, especially at the plug and the point where the cord exits the unit.
11. The power supply cord should be unplugged when the unit is to be unused for long periods of time.
12. If this product is to be mounted in an equipment rack, rear support should be provided.
13. Metal parts can be cleaned with a damp rag. The vinyl covering used on some units can be cleaned with a damp rag, or an ammonia based household cleaner if necessary.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation holes or any other openings.
15. This unit should be checked by a qualified service technician if:
    A. The power supply cord or plug has been damaged.
    B. Anything has fallen or been spilled into the unit.
    C. The unit does not operate correctly.
    D. The unit has been dropped or the enclosure damaged.
16. The user should not to attempt to service this equipment. All service work should be done by a qualified service technician.

Introduction

Congratulations and thank you for purchasing the LICON™ 416. The LICON 416 is a new microprocessor based DJ lighting controller system that redefines the leading edge of the DJ lighting industry. The LICON 416 is a 4-channel, microprocessor driven controller that works with any 0 to 10 volt driven, 4-channel lighting units, such as the PV-Lite™ 3000 and Illuminator™ 600, both made by Peavey Electronics.

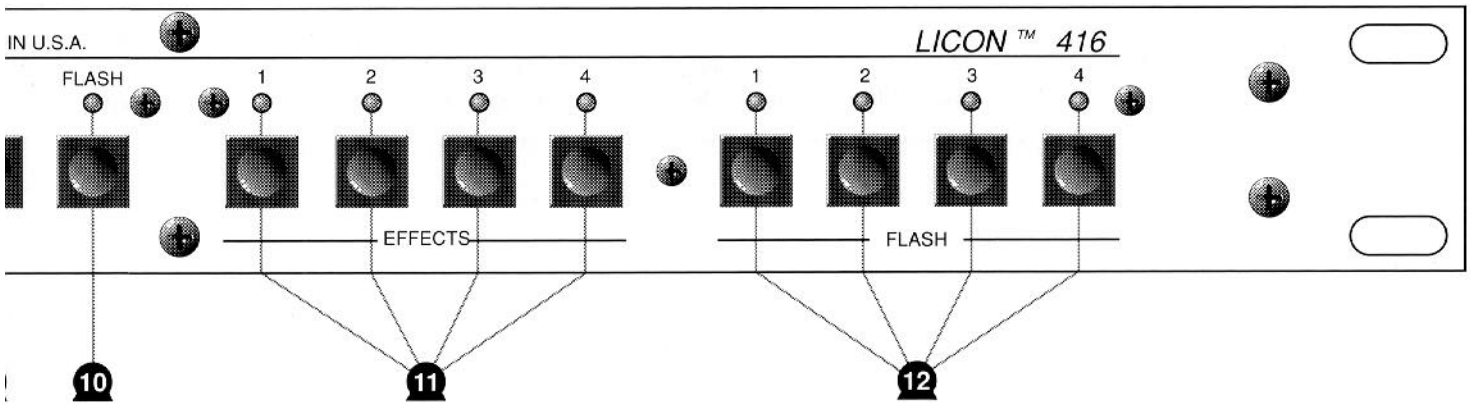
Features:

- Controls Illuminator 600, PV-Lite 3000, and other to-be-announced Peavey Lighting Solutions™ equipment as well as other compatible brands of 0 to 10 volt systems
- Beat-lok hardware and software; bass beat filter
- 16 chase patterns with hold switch to lock in a preferred chase pattern or release the chase for free-running
- Sound and auto-chase facility
- All Flash and Blackout buttons
- Bass filter selectable on or off
- Split-controller facility for channel over-ride or control of four static effects as well as 4-channel chase
- Compatible with both Channel and Function Illuminator 600 footpedals
- 19" rack-mountable x 1 IU x $4^1/_2$" deep; fits into most DJ consoles
- UL-listed remote power supply
- 5 lbs. weight for ultra-portable, easy-carrying



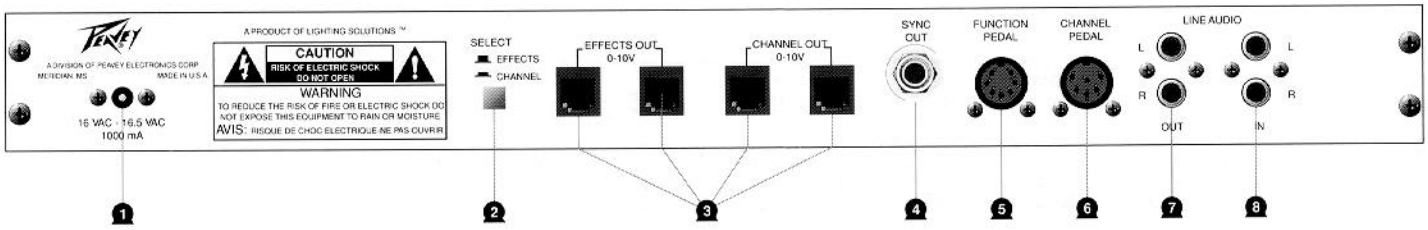
Front Panel Descriptions

1. **Audio Level**
   This controls the audio input level of the music source located at the RCA input jack.
2. **Chase Speed**
   This controls how fast the lights will chase or perform the automatic chase routine.
3. **Filter Button and LED**
   Depressing the *Filter* button makes the Peavey Beat-lok feature active. When this feature is active the LED will glow *red.*
4. **Sound Button and LED**
   This button has three modes:
   1) *Normal*, once the *Chase/Pulse* feature is active, by pressing the *Chase* button, pressing the *Sound* button will place the LICON 416 into the normal mode. In this mode, indicated by the LED glowing red, the LICON 416 will chase music. Pressing the *Sound* button again will turn off the music chase, indicated by the LED turning off, and the LICON 416 will follow an automatic chase routine.
   2) *Variable Lock-Out*, this mode allows the user to control the maximum chase rate. This is accomplished by ignoring the audio inputs for a period of time after triggering. This feature provides control of the 'lock-out time' to match the chase rate to the program material. To engage this feature the LICON 416 must be in the Normal mode. Then, when the *Chase Speed* knob is moved the unit is automatically placed in the *Variable Lock-out mode* (the LED will flash slowly). The *Chase Speed* knob adjusts the 'lock-out time' from less than 100 milliseconds (10 on the *Chase Speed*), to approximately 1.5 seconds (0 on the *Chase Speed*).
   3) *Skip Beat*, engage this mode by depressing and holding the Sound button for at least **two seconds**. This mode allows the user to skip beats by using the Chase Speed knob. Setting the Chase Speed to 0 will not skip any beats, while a setting of 1 will skip 1 beat and so on, up to 10 beats.
5. **Chase Button and LED**
   This button makes the *Chase/Pulse* feature of the LICON 416 active. Pressing and releasing the button will put the LICON 416 into *Chase* mode. The LED will glow *red* in this mode.
   Pressing and holding the button for at least **two seconds** will put the LICON 416 into *Pulse* mode. The LED will flash in this mode.
6. **Pattern Select Button and LEDs**
   This button advances the LICON 416 through the sixteen different chase patterns. The four LEDs



display the currently selected chase pattern.

7. **Hold Button and LED**
   Pressing and releasing this button holds the current chase pattern. Pressing and releasing this button again allows the LICON 416 to play each pattern four times and then move to the next pattern. The LED glows *red* when in hold.
8. **Blackout Button and LED**
   Pressing and releasing this button blacks out (turns off) all the lights. The LED glows *red* when in blackout. Pressing and releasing this button again de-selects blackout.
9. **All On Button and LED**
   Pressing and releasing this button turns all the lights on. Pressing and releasing this button again turns all the lights off. This button will not turn on all the lights when the blackout is active. The *All On* button also works with the *Flash* button described below.
10. **Flash Button and LED**
    Pressing the *Flash* button is used to flash all the lights on the system. If the *All On* button is off, pressing the *Flash* button will cause all the lights to turn on until the *Flash* button is released.
    If the *All On* button is on, pressing the *Flash* button will cause the *All On* feature to be bypassed until releasing the *Flash* button.
11. **Effect Buttons and LEDs**
    The *Effect* buttons perform two functions: 1) If the LICON 416 is in the *channel* mode (see ***Back Panel Descriptions***: **Effects Select Switch**), the *Effects* buttons will control the channel lights. 2) If the LICON 416 is in the *effects* mode, the *Effects* buttons will control external effects devices, such as any 0-10 volt DC logic controlled effects units or relay packs.
12. **Flash Buttons and LEDs**
    The *Flash* buttons will flash the lights controlled by the *Effects* buttons. If the *Effect* button is off, pressing the *Flash* button causes the effect to turn on until the *Flash* button is released. If the *Effect* button is on, pressing the *Flash* button causes the effect to turn off until the *Flash* button is released.



Back Panel Descriptions

1. **Power Supply Plug**
   Use only the 16-16.5 volt AC 1000 mA adaptor provided. (Peavey part #70900660)

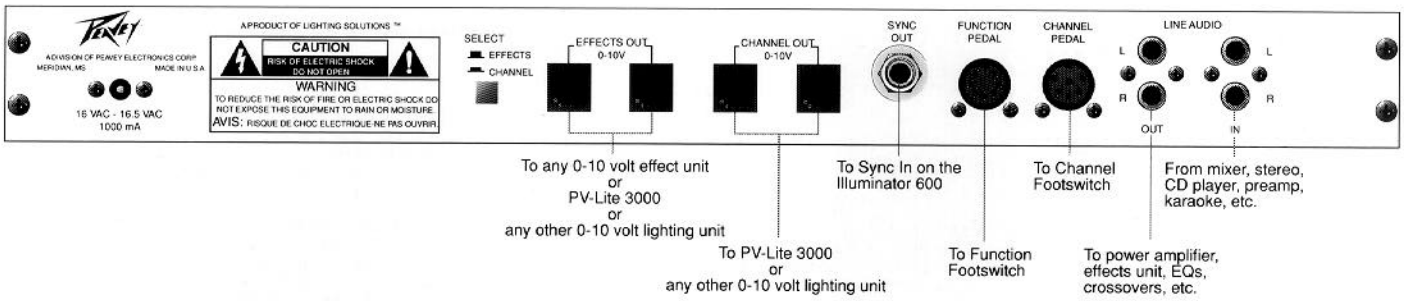
Caution: Use only the Peavey 16.5 volt power supply provided with this product. If the original power supply must be replaced, consult your Peavey dealer or the factory for the correct replacement. Failure to use the correct power supply could result in fire, shock hazard, extensive circuit damage, decreased performance or non-operation.

2. **Effect Select Switch**
   When this switch is in the "out" position, the two 6-way telephone jacks alongside the switch are used to connect the LICON 416 to external effects. When this switch is in the "in" position, all external effects are bypassed.
3. **Effect Output Jacks**
   Use these 6-way telephone jacks to connect the LICON 416 to any 0-10 volt DC logic controlled effects unit. (See Pin-out diagram on page 8.)
4. **Sync Out Jack**
   This 1/4" jack is provided especially for use with the Illuminator 600 lighting system. Simply connect a 1/4" to 1/4" instrument cable from the *Sync Out* jack of the LICON 416 to the *Sync In* jack of the Illuminator 600. The LICON 416 will now control the Illuminator 600.
5. **Function Pedal Jack**
   This is for use with the Function Pedal footswitch controller. Peavey part #0007907
6. **Channel Pedal Jack**
   This is for use with the Channel Pedal footswitch controller. Peavey part #0007862
7. **RCA Audio Input Jacks**
   These RCA jacks will accept input from any line level audio source. For example, you can use any of the following audio sources: mixer, stereo, CD player, preamp, karaoke (Protege™ by Peavey), etc.
8. **RCA Parallel Output Jack**
   These RCA jacks allow you to pass the line level audio signal present at the audio input to units like power amplifiers, effects units, equalizers, crossovers, etc.

Connection Ideas

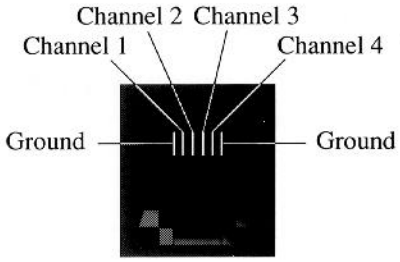
- **Effects Connections**
  The *Effects* jacks may be used to connect to any 0-10 volt driven effects unit, the PV Lite 3000, or any other 0-10 volt driven lighting unit. Connections need to be made with *6-pin* phone cables.

- **Channel Connections**
  The *Channel* jacks may be used to connect to the PV Lite 3000 or any other 0-10 volt driven lighting unit. The connection needs to made with *6-pin* telephone cables.
- **Sync Out Connection**
  The *Sync Out* jack is provided for use with the Illuminator 600 made by Peavey. This connection is made with a 1/4" instrument cable.
- **Function Jack**
  The *Function* jack is provided for connection to a footswitch such as the Function footswitch from Peavey. Peavey part #0007907
- **Channel Jack**
  The *Channel* jack is provided for connection to a footswitch such as the Channel footswitch from Peavey. Peavey part #0007862
- **Line Audio Out Connections**
  The *Line Audio Out* jacks can be used to connect to power amplifiers, effect units, equalizers, crossovers, etc. These connections need to be made with cables that have an RCA connector at one end.
- **Line Audio In Connections**
  The *Line Audio In* jacks can be used to accept input from a mixer, stereo, CD player, preamp, karaoke (such as the Protege by Peavey), etc. These connections need to be made with cables that have an RCA connector at one end.



Phone Jack Pin-Out Diagram

Note: By using the following diagram and pin-out diagrams from other manufacturers' units, (such as dimmers and relay packs), you can interface these units with the LICON 416 for 4-channel 0 to 10 volt control purposes.



Specifications

Power:	16.5 volt AC 1000 mA
Outputs:	0 volt DC - "Off"
	10 volt DC - "On"
Dimensions:	19.000"(L) x 4.500"(W) x 1.750"(H)

THIS LIMITED WARRANTY VALID ONLY WHEN PURCHASED AND REGISTERED IN THE UNITED STATES OR CANADA. ALL EXPORTED PRODUCTS ARE SUBJECT TO WARRANTY AND SERVICES TO BE SPECIFIED AND PROVIDED BY THE AUTHORIZED DISTRIBUTOR FOR EACH COUNTRY.
Ces clauses de garantie ne sont vaiables qu'aux Etats-Unis et au Canada. Dans tous les autres pays, les clauses de garantie et de maintenance sont fixees par le distributeur national et assuree par lui seion la legislation en vigueur.
Diese Garantie ist nur in den USA and Kanada gultig. Alle Export-Produkte sind der Garantie und dem Service des Importeurs des jewelligen Landes unterworfen.
Esta garantia es valida solamente cuando el producto es comprado en E.U. continentales o en Canada. Todos los productos que sean comprados en el extranjero, estan sujetos a las garantias y servicio que cada distribuidor autorizado determine y ofrezca en los diferentes paises.

ONE-YEAR LIMITED WARRANTY/REMEDY

PEAVEY ELECTRONICS CORPORATION ("PEAVEY") warrants this product, EXCEPT for covers, footswitches, patchcords, tubes and meters, to be free from defects in material and workmanship for a period of one (1) year from date of purchase, PROVIDED, however that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions and limitations hereinafter set forth:

PEAVEY 90-DAY LIMITED WARRANTY ON TUBES AND METERS

If this product contains tubes or meters, Peavey warrants the tubes or meters contained in the product to be free from defects in material and workmanship for a period of ninety (90) days from date of purchase; PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is also subject to the conditions, exclusions and limitations hereinafter set forth.

CONDITIONS, EXCLUSIONS AND LIMITATIONS OF LIMITED WARRANTIES

These limited warranties shall be void and of no effect if:
a. The first purchase of the product is for the purpose of resale; or
b. The original retail purchase is not made from an AUTHORIZED PEAVEY DEALER; or
c. The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or other causes not arising out of defects in material or workmanship; or
d. The serial number affixed to the product is altered, defaced or removed.

In the event of a defect in material and/or workmanship covered by this limited warranty, Peavey will:
a. In the case of tubes or meters, replace the defective component without charge;
b. In other covered cases (i.e., cases involving anything other than covers, footswitches, patchcords, tubes or meters), repair the defect in material or workmanship or replace the product, at Peavey's option;
and provided, however, that, in any case, all costs of shipping, if necessary, are paid by you, the purchaser.

THE WARRANTY REGISTRATION CARD SHOULD BE ACCURATELY COMPLETED AND MAILED TO AND RECEIVED BY PEAVEY WITHIN FOURTEEN (14) DAYS FROM THE DATE OF YOUR PURCHASE.

In order to obtain service under these warranties, you must:
a. Bring the defective item to any AUTHORIZED PEAVEY DEALER or AUTHORIZED PEAVEY SERVICE CENTER and present therewith the ORIGINAL PROOF OF PURCHASE supplied to you by the AUTHORIZED PEAVEY DEALER in connection with your purchase from him of this product.
If the DEALER or SERVICE CENTER is unable to provide the necessary warranty service you will be directed to the nearest other PEAVEY AUTHORIZED DEALER or AUTHORIZED PEAVEY SERVICE CENTER which can provide such service.

OR

b. Ship the defective item, prepaid, to:

PEAVEY ELECTRONICS CORPORATION
International Service Center
Highway 80 East
MERIDIAN, MS 39301

including therewith a complete, detailed description of the problem, together with a legible copy of the original PROOF OF PURCHASE and a complete return address. Upon Peavey's receipt of these items:
If the defect is remedial under these limited warranties and the other terms and conditions expressed herein have been complied with, Peavey will provide the necessary warranty service to repair or replace the product and will return it, FREIGHT COLLECT, to you, the purchaser.

Peavey's liability to the purchaser for damages from any cause whatsoever and regardless of the form of action, including negligence, is limited to the actual damages up to the greater of $500.00 or an amount equal to the purchase price of the product that caused the damage or that is the subject of or is directly related to the cause of action. Such purchase price will be that in effect for the specific product when the cause of action arose. This limitation of liability will not apply to claims for personal injury or damage to real property or tangible personal property allegedly caused by Peavey's negligence. Peavey does not assume liability for personal injury or property damage arising out of or caused by a non-Peavey alteration or attachment, nor does Peavey assume any responsibility for damage to interconnected non-Peavey equipment that may result from the normal functioning and maintenance of the Peavey equipment.

UNDER NO CIRCUMSTANCES WILL PEAVEY BE LIABLE FOR ANY LOST PROFITS, LOST SAVINGS, ANY INCIDENTAL DAMAGES OR ANY CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PRODUCT, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

THESE LIMITED WARRANTIES ARE IN LIEU OF ANY AND ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE; PROVIDED, HOWEVER, THAT IF THE OTHER TERMS AND CONDITIONS NECESSARY TO THE EXISTENCE OF THE EXPRESS, LIMITED WARRANTIES, AS HEREINABOVE STATED, HAVE BEEN COMPLIED WITH, IMPLIED WARRANTIES ARE NOT DISCLAIMED DURING THE APPLICABLE ONE-YEAR OR NINETY-DAY PERIOD FROM DATE OF PURCHASE OF THIS PRODUCT.

SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THESE LIMITED WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

THESE LIMITED WARRANTIES ARE THE ONLY EXPRESS WARRANTIES ON THIS PRODUCT, AND NO OTHER STATEMENT, REPRESENTATION, WARRANTY OR AGREEMENT BY ANY PERSON SHALL BE VALID OR BINDING UPON PEAVEY.

In the event of any modification or disclaimer of express or implied warranties, or any limitation of remedies, contained herein conflicts with applicable law, then such modification, disclaimer or limitation, as the case may be, shall be deemed to be modified to the extent necessary to comply with such law.

Your remedies for breach of these warranties are limited to those remedies provided herein and Peavey Electronics Corporation gives this limited warranty only with respect to equipment purchased in the United States of America.

INSTRUCTIONS — WARRANTY REGISTRATION CARD

1. Mail the completed WARRANTY REGISTRATION CARD to:

PEAVEY ELECTRONICS CORPORATION
POST OFFICE BOX 2898
MERIDIAN, MISSISSIPPI 39302-2898

   a. Keep the PROOF OF PURCHASE. In the event warranty service is required during the warranty period, you will need this document. **There will be no identification card issued by Peavey Electronics Corporation.**
2. IMPORTANCE OF WARRANTY REGISTRATION CARDS AND NOTIFICATION OF CHANGES OF ADDRESS:
   a. Completion and mailing of WARRANTY REGISTRATION CARDS — Should notification become necessary for any condition that may require correction, the REGISTRATION CARD will help ensure that you are contacted and properly notified.
   b. Notice of address changes — If you move from the address shown on the WARRANTY REGISTRATION CARD, you should notify Peavey of the change of address so as to facilitate your receipt of any bulletins or other forms of notification which may become necessary in connection with any condition that may require dissemination of information or correction.
3. You may contact Peavey directly by telephoning (601) 483-5365.
4. Please have the Peavey product name and serial number available when communicating with Peavey Customer Service.

Features and specifications subject to change without notice.

Peavey Electronics Corporation / 711 A Street / Meridian, MS 39302-2898 / U.S.A. / (601) 483-5365 /Telex: 504115 / FAX: 484-4278

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